International Civil Aviation Organization

Fifth Meeting of the Aerodrome Safety, Planning & Implementation Group

(ASPIG/5) *(Doha, Qatar, 13-15 June 2023)*

Agenda Item 2: **Regional Performance Framework for Aerodrome Safety**

UAE VERTIPORT REGULATION

(Presented by the United Arab Emirates)

SUMMARY
This paper presents an overview of UAE's progress in the development and publication of the first national regulation in the world on Vertiports. The regulation covers certification, design, and operational requirements for Vertiports.   Action by the meeting is at paragraph 3.
REFERENCES
- The UAE General Civil Aviation Authority (GCAA) Civil Aviation Regulation – Heliports, Vertiports, and Helidecks (CAR – HVD)

1. **INTRODUCTION**

1.1   The rapid and increasing development of electrical vertical take-off and landing (eVTOL) aircraft has created a need for new infrastructure, new networks and new regulatory approaches. The demand for vertiports continues to accelerate as eVTOL manufacturers aim to launch their aircrafts by 2024. As a potential global network is envisaged by 2030, this novel carbon-neutral industry must be served by suitable, safe and regulated infrastructure.

1.2   The UAE has pioneered and long maintained oversight for helipads but the new generation of clean, sustainable and dynamic eVTOL aircraft has accelerated initiatives to reach non-traditional aviation stakeholders, develop novel regulation and expand forecasting models to cater a UAM sector within the UAE. eVTOL aircrafts present an opportunity for increased safety, sustainability and efficiency in the civil aviation system; but only if appropriate infrastructure in form of vertiports are provided.

1.3   Despite very limited ICAO guidance, the UAE demonstrated its readiness to elevate and enhance global standards and best practices in the area of Advanced Air Mobility, by developing and publishing the first national regulation in the world on Vertiports.

1.4   This paper presents the development of UAE national regulations on the certification, design and operations of vertiports, Civil Aviation Regulation, Heliports, Helidecks, and Vertiports (CAR-HVD).

2.   DISCUSSION

2.1   In 2022, the UAE carried out an applicability assessment, initial impact assessment and a gap analysis against ICAO Annex 14 Volume 2, FAA Engineering Brief No. 105 Vertiport Design, and EASA PTS-VPT-DSN, and drafted the first national regulation of its kind on Vertiports.

2.2   The UAE has developed a robust regulatory framework for the certification and oversight of vertiports with the following objectives:

a) Ensure continued safety, regularity and efficiency of VTOL/eVTOL aircraft operations at vertiports and aerodromes.
b) Ensure the vertiport is in compliance with the relevant national regulations and international standards and best practices.
c) To ensure that the vertiport is designed, constructed, and operated in a way that minimizes the risk of accidents and injuries to passengers, crew, and other personnel.

2.3   The regulations cover the certification requirements for public use vertiports and private use, and are categorised as follows:

a) Vertiport certification
   • Public
   • Hospitality and tourism
b) Vertiport Landing Area Acceptance (LAA)
   • Private
   • Flight training
   • Hospitals/ Clinics / Helicopter Emergency Medical Services
   • Corporate facility
   • Shipboard vertiports
   • Emergency evacuation vertipad

2.4   The UAE General Civil Aviation Authority (GCAA) developed an electronic platform (GCAA e-services) to receive and process vertiport certification and LAA applications.

2.5   For a Vertiport Certificate, applications are provided through GCAA e-Services. Each applicant will be required to complete an initial on-line form. Applications will be assessed and processed by the GCAA Air Navigation and Aerodrome Department through assessing physical aspects, operational procedures, safety management system, airspace assessment, etc.

2.6   The GCAA will conduct a verification audit of the facilities, equipment, policies and procedures and other related safety activities.

2.7   Following the issue of a Vertiport Certification and/or Landing Area Acceptance, the vertiport operator will be subject to a continuous oversight process.

2.8   The regulations encompass certain unique requirements such as:

a) Trained and competent Vertiport Landing Officer (VLO), who is responsible for ensuring the physical and operational aspects of the vertiports is safe for aircraft operations.

    b)   Vertiport Assistant who is responsible for:

        1.   Assisting the VLO in the operation of the vertiport;
        2.   Directing passengers to and from the VCA;
        3.   Loading and unloading freight and baggage from the VCA; and
        4.   Operation of firefighting and equipment under the direction of the VLO and assisting the VLO with checking the performance and operational readiness of ground operations, firefighting and rescue equipment'

apart from the requirements for accountable manager and operations post holders.

    c)   Training – regulations includes the need for a structural learning program (SLP) for vertiport personnel.

    d)   Any organisation conducting commercial vertiport operations competency-based training and assessment must be certified by the GCAA.

    e)   Establishing the Rescue and firefighting requirements pertaining to the services and the equipment required to be provided at a vertiport which should commensurate with the level of VTOL capable aircraft operations and other operational activities.

    f)   Establishment and implementation of vertiport emergency response plan that should commensurate with the level of VTOL capable aircraft operations and other operational activities.

    g)   Obstacle limitation environment – establishment of obstacle limitation surfaces (OLS) and obstacle free-volume (OFV).

    h)   Charging stations and electric infrastructure such as power generation, storage and distribution, battery storage system and uninterrupted power system.

In addition to the requirement for physical characteristics, visual aids, vertiport data and vertiport operational requirements.

2.9   Airspace assessment – the airspace of a proposed vertiport is assessed to ensure the safety of operation taking into consideration the VFR routes, special use airspace within the vicinity of the vertiports and specific entry/ exit route requirements.

2.10   The vertiport regulation went through a three months consultation period with the wider transport industry on a national and global level following the publication of the proposed amendment of the draft regulation in December 2022. The GCAA also held a series of industry wide workshops to promote awareness and receive interactive feedback.

2.11   In 2023, the UAE achieved an exceptional milestone by publishing the first national regulation in the world on Vertiports. The regulation is considered an essential pillar supporting the UAE's urban and advanced air mobility propositions. The regulatory oversight and certification frameworks provide a roadmap for safe and controlled integration of vertiports into the civil aviation system while expanding critical national infrastructure to unleash potentials offered by eVTOL aircrafts.

2.12   With the publication of the new vertiport regulations, the GCAA relaunched its heliport dashboard to include all certified vertiports in the UAE. The UAE heliport and vertiport dashboard is a database with general information and the technical details of each heliport and vertiport in the country.

The heliport and vertiport database provide the basis for medium-range future demand forecasts for manpower for oversight activities, scheduling and budgeting over a 12 to 36-month period. Forecasts are based on the number of facilities along with risk analysis and profiling.

3. **ACTION BY THE MEETING**

3.1 The meeting is invited to:

a) note the content of the paper;

b) refer UAE Civil Aviation Regulation on Vertiports (CAR-HVD) to the ICAO Vertiport Design Sub Group for discussion and consideration in the development of relevant SARPS; and

c) the UAE General Civil Aviation Authority offers its support in providing guidance and trainings to member states on vertiports certification.

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